

432 MHz AND ABOVE EME NEWS

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CONDITIONS

A huge solar flare provided fun on aurora but made 70 cm EME operation a challenge during the 1st part of the EUR Contest. Despite the poor conditions – at time echoes disappeared even for the bigger stations, there was plenty of activity. There was also a reasonable turnout on 13 cm where conditions were not affected by the aurora. Activity was down on 23 cm whose chance comes this month along with the higher microwave bands in the 2nd part of the REF/DUBUS Contest.

[AL7OB](#)

[Mike](#) was able to get his new drive gear installed in time for start of Eur contest. I worked 30 stations [at the time of this report before the end of the contest weekend], but conditions were not good. I did add 5 initials to bring me to #75. I got skunked on my moonset. Usually my EU window is best, but I think the solar storm ruined my EME conditions. I could not hear my own echoes at all for quite a while. I suppose this was partly due to Faraday, but I believe mostly it was from ionospheric absorption. This amazed me because my echoes with the new dish have normally been HUGE! I still have a lot of work to do on the antenna. My position indicators are very weak. My apologies, if I have frustrated anyone. A few times during QSOs I was trying to peak on a signal and lost the moon altogether. I am missing some easy contacts, which I hope to get before the contest ends as K2UYH, W7CI, DK3WG and DL7APV.

[CT1DMK](#)

Luis is now getting 14 dB of sun noise (with his dish under illuminated) on 5.7GHz. He was active during the SW testing circular with good results. He is receiving about 1.5-1.6 dB of moon noise and nearly worked LX1DB. He says the antenna is presently not operational as he is making some mechanical changes.

[DL0EF](#)

Klaus (DL3KDT) reports that the Astropeiler 10 m is now dish QRV on 10 GHz -
- We are now ready to go, finally! We plan to take part in the coming EME contest with our station, DL0EF. Please pass the word. We are looking for skeds. Our email address is eme@astropeiler.de. I will be on 20 m net on weekends, also, see our web site at:

DL0EF

DL5LF

Frank writes -- A small report from 1st DUBUS Contest weekend. WX was pretty good, no wind, clear sky and 10 deg C. There was aurora all weekend on 2 m and sometimes on 70 cm too. EME conditions seemed also ok, but I have heard nil for 2 months. I QSO'd DL9KR, OZ4MM, HB9Q, DL9NDD and OZ6OL (possibly tropo) and heard S51ZO, K2UYH and DK7BU (on tropo).

DL7APV

Bernd did not find 70 cm conditions very good during the contest weekend -- I didn't finish the array in time. I was finally ready on Saturday evening and only worked WB0GGM for an initial (#) on Saturday. I added 21 more QSOs on Sunday for a final score of 22x? The aurora wasn't helpful on EME, so I found condx pretty bad. Activity was not very good either. The vert (4x21) antenna for RX was very helpful, especially during my QSO with G3LTF. I received Peter (449) on vert but nil on horiz. I plan to add an open feed to my system by the next sked weekend, which should improve the RX 2 to 3 dB.

G3LTF

Peter had great plans for 13 cm in the Dubus contest -- In the rush to complete my new 13 cm feed I discovered (after the contest!) that it is possible to misalign screw type polarizers to give the reverse direction of pol. As a result I got good echoes but could only hear strong stations very weakly and couldn't raise anyone! After the contest when the WX improved and I got the polarizer sorted out and the feed focused in the dish, I could see definite improvement. The sun noise was 16.9 dB for a flux of 195. On 23 cm at the same time the sun noise was 21.5 dB. To prove that 13 cm was working, I QSO'd G3LQR on 3 April and DL6LAU for initial #17 the next day. On 432 I worked on 1 April WA4NJP, G4ERG, K5JL, OE5EYM, OZ4MM, DL7APV, OE3JPC, WB0GGM, K2UYH, DL9NDD, G3SEK, W7CI, S52CW and SM3AKW. Heard were K5WXN and UA3PTW, and CWNR were EA3DXU, ON5OF, SK4BX(?), AL7OB and I5CTE. [Peter promises details of his new feed for a future NL.]

GW3XYW

Stu sends his 13 cm EME activity report for the 31 March/1 April SW -- On Saturday I worked OE9XXI (559/559), OK1CA (339/339), DL6LAU (O/O), OZ4MM (549/549) and SM3AKW (549/549), and on Sunday G3LQR (339/339) and SM3AKW (549/549). The TX power was in the range 40/60 W. The variation was due to PA problems. Since antenna beam width is quite narrow at 13 cm, I find it useful to have a quick method of checking antenna tracking. This is done on Rx by using the lunar thermal noise as a signal and the G4PMK receiver and alignment test set - see RATS- Rad.Com JULY 95 - as an indicator on SS mode,

fed off the system 144 IF. In the future I hope to increase the TX output.

HB9BBD

Dominique writes that he has very little time for EME because he is involved in refurbishing his home. Nevertheless, I will be in Dayton at the Hamvention. Is there an EME onsite, gathering or meeting point? I would appreciate meeting some of the guys. During the April SW I had 2 QSOs on 23 cm with HA5SHF (539) and G4CCH (579).

K4EME

Cowles reports some exceptional 70 cm conditions right after the contest, but had problems during the contest Bad WX, a strong local carrier or a birdie on 432.040 and Faraday rotation caused poor results on Saturday during my skeds. On Sunday Evening, after the rain and wind stopped, the VSWR returned to normal and so did my receive sensitivity. I heard my echoes very loud at my normal power output. I experimented with reducing my power until I could just perceive my echoes. I was able to hear my echoes with as little as 15 W measured on my Bird model 43 - almost QRP; no April Fool! Up until now the best I could do was echoes with 50 to 100 W. Conditions Sunday night (0200 to 0300 on 2 April) appeared to be as good as I have every heard. I made a sked with KJ7F via landline and was successful for initial #69. On Monday night I worked Dan, K5WXN #70. On Monday night my echoes were not quite as loud as the night before, however they were very good. I heard my echoes at around 50 W. I also worked N9AB, very loud.

K5JL

Jay reports very prominent Faraday on 432 during the contest. He heard a few Jas, a VK and no ZS, also no W3, W8, or W6s. During the post SW he QSO'd W7MEM to bring him to initial #727. Jay also heard KL7HFQ and worked K6JEY, W7CI and W4ZRZ. He CWN'd K4EME many times and says the band seemed peculiar.

K6JEY

Doug feels he is back in business on 432 -- I have fixed at least temporarily fixed the water problems I have been having. I contacted AL7OB on random with nice signals. Later I QSO'd K5JL (559/539) and heard 2 other stations. I think I can be considered to be available for schedules from DM03wt with 4x25 el FO yagis, .22 dB NF LNA and 500 W. I am still working on the 8938 amplifier and hope to get it on soon.

N1BUG

Paul sends a bit of info on his 70 cm progress -- After playing with 70 cm EME at moon rise/set for 3 months (5 initials during that time: K1FO, DL9KR, SM2CEW, DL4MEA and DL9NDD), I made some improvements just before the

DUBUS contest. I now have full el, lower losses in the transmit line, and a preamp very close to the yagi feedpoint. I am still at 550 W to a single FO-22. New stations this month were KU4F, K5JL, G3SEK, KA0Y, OZ4MM, HB9Q and OE5EYM to bring me to #12 initial. All 8 stations were worked random during the contest. The most amazing contact and the one I will long remember was DL9KR (559/559). Many more stations were heard (including PA3CSG, KD4LT, N9AB, K0RZ, W7CNK, K2UYH, IN3AGI, AL7OB, EA8FF, G4ERG and PA4FP. Conditions were not good after the contest. I had some close ones but no completions. I will be looking for skeds in the months ahead. However, I will not be QRV on 70 cm during the next SW. I would like to thank N4GJV for encouragement and a gentle nudge to get started, K1FO for excellent info on the perils of 70 cm EME on the horizon (it's much easier with elevation!), K1RQG for all he does on the net, and of course K2UYH et al.

OK1CA

Franta says -- I was activity only on 31 March on 2.3 GHz. I had a new PA with power FETs giving 60 W at the feed. I worked JA4BLC (O/O) crossband 2304/2424, OE9XXI (559/559), HB9SV (549/449), OK1UWA (339/O) for initial #12, SM3AKW (449/439) #13, OH2AXH (449/339) and GW3XYW #14 crossband 2304/2320. Heard were OK1KIR and LX1DB. I agree with NU7Z (on the moon-net) to announce in CQ where a station is listening - L04 or L20. An example CQ DE OK1CA L04. [Why not shorten it to CQ4 or CQ20 or possible CQ and CQH or CQL when listening in a different portion of the band?)

OK1KIR

Tonda and Vlada send their latest news and info -- In the 1st part of Eur Contest OK1KIR on 432 we had PA troubles and were only putting out 150 W from SS driver (old surplus Motorola PA module from base station of previous Austrian 450 MHz NMT mobile phone network). This allowed on 1 April only QSOs with at 1131 HB9Q (569/549) and 1140 OZ4MM (559/429). Heard were DL4MEA, DL7APV, DL9NDD (CWNR) and VK4AFL. On 2304 MHz on 31 March we worked at 1316 OE9XXI (559/549), 1324 OZ4MM (549/439), 1815 OK1UWA (O/O) for initial #41, 1920 HB9SV (549/539), 1928 W5LUA (449/449), 1945 OH2AXH (549/539) and 2019 LX1DB (559/449). SM3AKW was also heard March. On 5760 on 1 April we QSO'd at 1856 LX1DB (549/449) and 2030 partial CT1DMK (M/?) - surprised by very weak signal. Nil in skeds with IK2RTI and W5ICW. Moon noise was 1.2 dB and CS/G 3.8 dB with heavy water clouds. Circular feed was used the whole time. In the 2nd part of Eur Contest we will be on 1296 MHz on Saturday (28 March) and on 10368 Sunday (29 March). We are eager for 1296 and 10368 skeds. We have either rotatable linear or circular pol on 3 and 6 cm, but changes takes at least half an hour.

ON5RR

Marc reports that Belgium is finally active on 13 cm EME -- We are using a homebrew transverter with RX and TX on 2304 and 2320 MHz - sorry not JA yet. The output power from the SSPA is 75 to 80 W in the shack. The preamp is 3 x stage with a 0.67 NF and 27 dB gain. The feed is a VE4MA. We have worked LX1DB, OE9XXI (even on SSB), OE9ERC, OZ4MM, SM3AKW, W5LUA and partial ZS6AXT - due to tracking problems we lost the moon. On 31 March it was a bit windy, so we were only active on Sunday 1 April. To improve our signal we are finishing up a dual YD1304 PA. We have plans for a better preamp on 13 cm, a GI7B amp for 23 cm and we are seriously considering expanding 6 m dish to 8 m. For the moment we are rebuilding our 1296 OZ9CR amp. I hope to have it finished for the next part of the contest.

OZ4MM

Stig found contest conditions awful on 70 cm -- It was very frustrating to operate on 432 this time. I don't remember I ever having experienced such rotating pol condx in my all my time on 432. In some periods the signals were very weak (both at V/H pol) and sometimes they were very strong signals coming back. My big surprise was to work N1BUG on random. I couldn't believe it was his call letters I copied. He was solid with his 1 yagi and 550 W. Also EA3DXU and OE3JPC with their 2 yagis were around with very good signal during the SW. Initials were N1BUG(O/O) #223, W4ZRZ (549/339) #224 and SK4BX (439/529) #225. A total of 60 stations were worked on 432. The multiplier has not yet been counted. 13 cm was another story. Conditions didn't seemed to be effected by the solar flare and many stations showed up this time. I worked JA4BLC, OE9XXI, OK1UWA, OH2AXH, DL6LAU for initial #37, OK1KIR, HB9SV, OK1CA, SM3AKW, LX1DB, GW3XYW, G3LQR, W9OUU, W5LUA and ON5RR #38 (1st ON-OZ on 13 cm EME) giving 15 stations.

OZ6OL

Hans reports on the 1st part of the Eur Contest. I was QRV on 70 cm, but the aurora condition made it a hard job to make QSOs on EME. I contacted AL7OB, HB9Q, OE5EYM, DL9KR, DL9NDD, RA3LE, OH2DG, DL4MEA, OZ4MM, K1FO, K0RZ, DL7APV, EA3DXU, G4ERG, DK3WG, SM3AKW, K5JL, DL5LF, WA4NJP, K2UYH, G3SEK and W7CI. I CWNR about 10 stations due to the bad condx and my low power (300 W). After the contest I picked up on 1296 K9BCT (549/559) and DF4PV (559/559).

S52CW

Uros has problem picking up skeds via email because he gets his via packet -- I have been QRT since 2nd part of ARRL contest when my HV transformer broke down. But I recently got a new 3 phase transformer and expect to be able to rebuilt the power supply to be on 432 for the DUBUS/REF Contest. [He was QRV].

S59DCD

Rajko reports the EME team of S59DCD is finally preparing for QRV on 13 cm -
- We have an xverter and a little PA with 6 W. This is probably not enough for many QSOs. We are thus looking for a bigger PA, maybe just a little more, enough to bring us to 50 W. Can somebody help us?

W2WD

Warren writes -- I fixed the xmtr problem in the FT-767gx. It was an inductor in a low-pass filter at the output of a low level driver stage that opened up for some reason. Getting a replacement was the hard part. My son's wedding happily turned out very well, but occupied a lot of time. I have not had time to work on the EME, but our last guests has now left and I can get back to the dish project.

W5LUA

Al writes in March I had a nice eyeball visit with Andre, F1PYR. Andre has a beautiful home in a nice location near Paris. I had a delightful Saturday afternoon with his entire family. I saw Andre's 4 m dish and his TH-347 amplifier for 23 cm. He has just finished rebuilding his HV power supply and looks forward to being more active in the future. He also indicated an interest in getting on 6 and 3 cm EME. Andre does a lot of portable operation from a nearby location on frequencies through 47 GHz and is working on equipment for 76 GHz.

W6HD

Tay sends good news -- I have my 10' dish tracking with my absolute US Digital encoders and the PIC emulation of FIEHN's board that Rex Allers KK6MK has done and will present at Microwave Update in San Jose this fall. Results so far include 14 dB of sun noise today and just over 1 dB of moon noise.

W7SZ

Larry sent a few hours on the 2nd day of the 1st Eur contest weekend on 432. He made 9 contacts including one initial with K1FO, HB9Q, K5JL, OZ4MM, OE5EY, G4ERG, DL9NDD, K2UYH and WA4NJP #. He reports excellent signals from Eur. His 12' dish is presently on 10 GHz where with a new LNA and 2 W at the feed he is getting up to 13 dB of sun noise and consistent "integrated" echoes using the DSP-10 technology – [see the last NL]. He can also see an occasional light trace of his echoes on the waterfall display.

WA2WIM

Neil writes -- I am nearing the end of my project to make my 1st 23 cm EME QSO. As the mechanical construction is finished, other than a few minor items, I am now concentrating on the electronics. As I write this on 21 March I am waiting for parts to arrive for the DSP-10. I also have decided to switch away from using the single tube KB2AH 1296 amp in favor of a solid state amp of TBD

design. I am looking at the kits available from DL2AM, and others. I plan to be running some receive tests within the next 60 days, and hopefully have transmit abilities with the TBD amp by mid-summer. I also plan to attend the VHF conference in Brentwood, TN in April. I have created a web site to help document some of what I have Done at"

[WA2WIM WEB Site](#)

I also have for sale, the 1296 MHz KB2AH single tube amp with tubes and water cooling cap, which has never been wired up. I would be willing to swap for a solid state amp or sell outright.

[WA6PY](#)

[Paul](#) is now QRV on 10 GHz -- My 8' TVRO C-band solid Al dish is poor on 10 GHz. (I even notice degradation on 13 cm versus 23 cm, but I blamed my feedhorn.) The focus is 20 mm longer than calculated. I am getting 6-7 dB of sun noise by moving the feed in this range. On 31 March I heard S57UUU (M) copy - weak but good enough for QSO and W5LUA (O). They did not hear me. After the skeds I checked my power at the feed horn using a directional coupler and HP437 power meter. I had 43.4 dBm (22 W +/- accuracy of the test of the setup). This is the same power I was using W6HD 4 years ago. On 1 April I thought I had a QSO with W5LUA, but Al was working W6HD at the time. I also heard AA5C, but his signal was too weak for a QSO. I am considering the repair of my old 10' dish. I talked with Jim WA7CJO, and he told me how he repaired the surface of his dish.

[WB5ADP](#)

[BOB](#) is QRV on 432 -- I just worked my 1st 432 EME QSO to a 4 yagi station and am feeling very lucky. I am in EM84ak and using a 1x38 el (13 WL) yagi with no elevation and 1.5 kW. I am looking for 432 skeds on my moon rise/set. My address is (57 Jennifer Court, Dahlonega Georgia 30533 USA), my tel is 706-867-7198. Anyone needing a good weak signal moon test signal, I am your man - hi hi. I like to run on 432.070.

[K2UYH](#)

I had wanted to spend more time on the moon during the 70 cm part of the REF/DUBUS Contest, but was limited to only a few hours of operation. Conditions made copy very difficult at times with frequent QRZs and consequent frustration. I QSO'd on 31 March at 1957 K5JL (559/559), 2016 UA3PTW (559/549) for initial #643, 2030 HB9Q (569/559), 2048 DL9NDD (559/569), 2054 DL9KR (579/579), 2114 S52CW (559/559), 2123 KA0RYT (559/559), 2136 QRZ - never got the call, 2141 OZ4MM (569/569), 2248 N9AB (559/559), 2205 K1FO (569/569), 2223 DL4MEA (559/539), 2244 SM3AKW (559/559), 2256 DJ6MB (559/559) and 2317 K0RZ (559/559), and on 1 April at 2144 G4RGK (449/559),

2148 G3LTF (559/559), 2159 I5CTE (549/559), 2207 AL7OB (559/559), 2215 OZ6OL (559/559), 2225 W7SZ (559/559), 2239 G4ERG (559/569) and 2330 W7CI (559/559) for a score 22x14.

NETNEWS

by

[G4RGK, DAVID DIBLEY](#)

FORSALE

WA2WIM has for sale a 1296 MHz KB2AH single tube amp, see Neil's report. He is also looking for a spectrum analyzer.

S59DCD is looking for a 13 cm PA, see their report.

Princess Auto at:

[Princess Auto](#)

is reported to be an excellent source for hydraulics by VE1ALQ.

FINAL

The NL is a week late and a little shorter than I would have liked. There is not Netnews this month. I had to go to Toulouse in France for a conference and could not complete the NL before I left. I worked on it in France, but did not receive all the information. Rather than be any later, I am sending out what I have.

Fortunately there are only a few skeds this month because of the contest weekend.

During our trip we had a great time visiting some of the VHF gang around the Toulouse area. We got to meet some of the ops of F5PL and to visit with Dom, F5DRO.

Mark, N2IQ reports that both 28' Kennedy dishes available in last month's NL have now been sold. K2DH has one and now has his old 18' dish for sale. N2IQ

has the other, but says that if anyone is interested in it, to call him. If no one is interested, Mark is going to put the dish on another band.

Sorry for the late and short NL. I hope to be back to normal next month. Please keep the reports and tech material coming.

73, Al - K2UYH



SKEDS

27 April

Time 432.040

1900z AL7OB -PA4FP
1930z AL7OB -RW3PF
2000z AL7OB -DK3WG
2030z AL7OB -DL7APV
2100z AL7OB -PA0PLY
2130z AL7OB -DF5LF
2200z AL7OB -G4YTL

28 April

Time 432.040 432.045

1700z K4EME -YO2IS
2000z AL7OB -UA6LGH
2030z AL7OB -OE3JPC
2100z WBOGGM-W7MEM
2130z AL7OB -CT1DMK
2200z AL7OB -W7MEM
2230z AL7OB -K4AR

29 April

Time 432.040 432.045 432.070

0300z AL7OB -7M2PDT
0330z AL7OB -JH1XUJ
0400z AL7OB -N1BUG
0430z AL7OB -WB5APD
0900z AL7OB -UT3LL
0930z AL7OB -DL4KG
2100z KAORYT-W7MEM

28 April

Time	1296.050	1296.060
1600z		F10AT -OK1KIR
1630z		F1PYR -OK1KIR
1700z		F1PYR -K2UYH
1730z		F10AT -K2UYH
1800z	OK1UWA-WA4NJP	DH00AH-K2UYH
1830z	OE5EYM-WA4NJP	9H1ES -OK1KIR
1900z	DF9QX -WA4NJP	9H1ES -W2UHI
1930z	WA4NJP-DH9FAG	
2100z	LU8EDR-K2DH	W7BBM -OK1KIR
2230z	W7BBM -WA4NJP	
2300z	W3XS -WA4NJP	

29 April

Time	1296.050	1296.060
0100z	WA4NJP-JA8ERE	
0130z	WA4NJP-JA7BMB	
0200z	WA4NJP-JF3HUC	
1900z		DJ5MN -9H1ES
1930z		DJ5MN -W4RDI

28 April

Time	2304.075
1900z	OK1UWA-G3LTF
1930z	OK1CA -G3LTF
2000z	ON5RR -G3LTF

28 April

Time	10368.030
1230z	DL0EF -S57UUU
1300z	DL0EF -OK1UWA
1330z	DL0EF -DLOSHF
1400z	DL0EF -F6KSX

29 April

Time	10368.030	10368.075
1230z		IK5WDJ-OK1KIR
1300z	DL0EF -OK1KIR	
1330z	DL0EF -LX1DB	I5PPE -OK1KIR
1400z		DL2LAC-OK1KIR

1430z		S57UUU-OK1KIR
1500z	DL0EF -CT1DMK	OH2AXH-OK1KIR
1730z		HB9BHU-PA3CSG
1800z		OK1UWA-PA3CSG
1830z		OH2AXH-PA3CSG
1900z	DL0EF -PA3CSG	
1930z	DL0EF -AA5C	VE4MA -OK1KIR
2000z	DL0EF -W5LUA	WA6PY -OK1KIR
2030z	DL0EF -WA7CJO	WA6PY -PA3CSG
2100z	DL0EF -VE4MA	
2130z	DL0EF -WA6PY	

EME OPERATING PROCEDURES FOR 432 AND ABOVE BY G3SEK

Netnotes by K1RQG

This information was obtained from: Scott, KD4LT

[Return](#)

[Top Page](#)

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